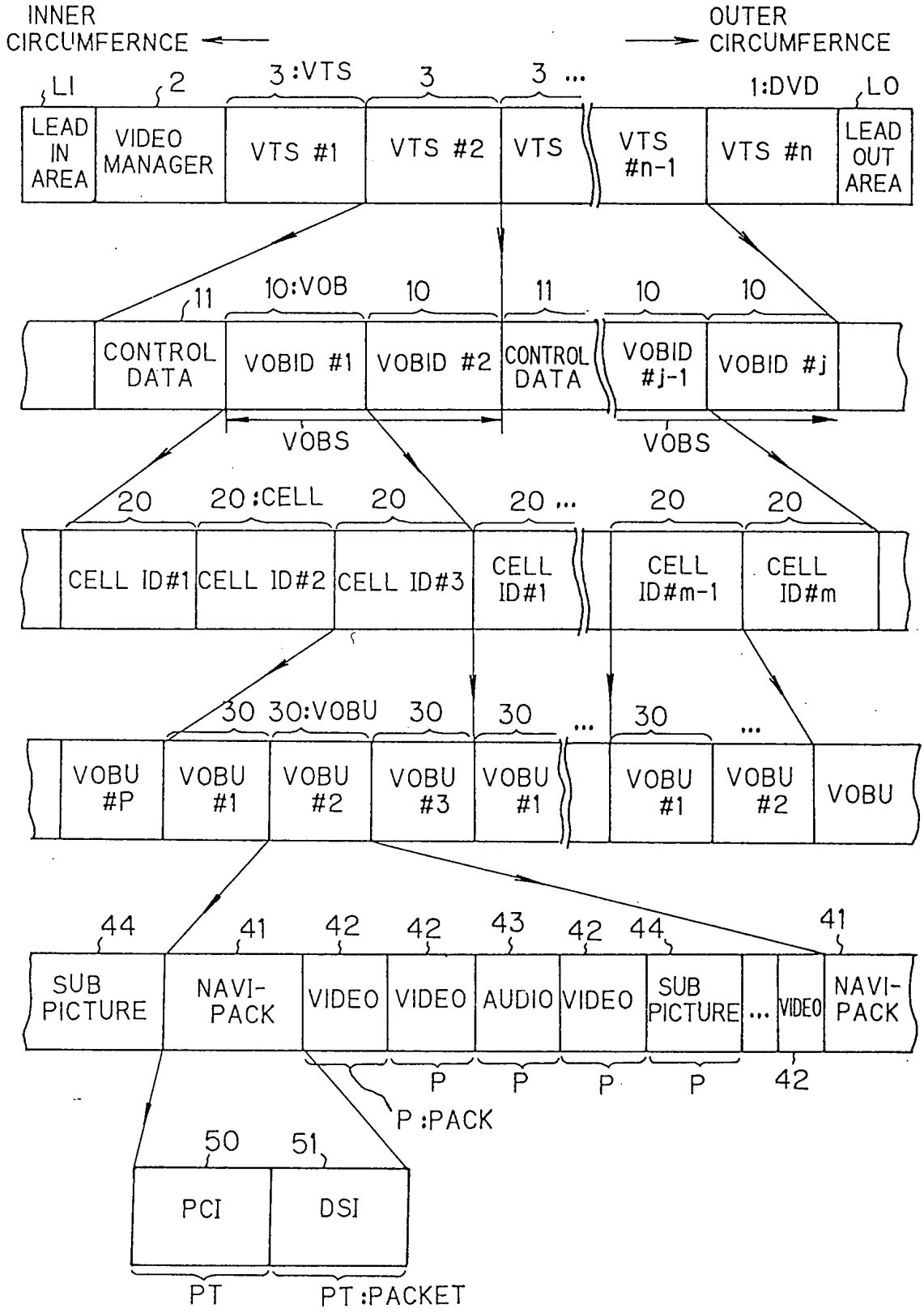
OR/821424

6137954

FIG.1

PHYSICAL STRUCTRE OF RECORD INFORMATION
(PHYSICAL FORMAT)



FIGS.16

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FIG. 2

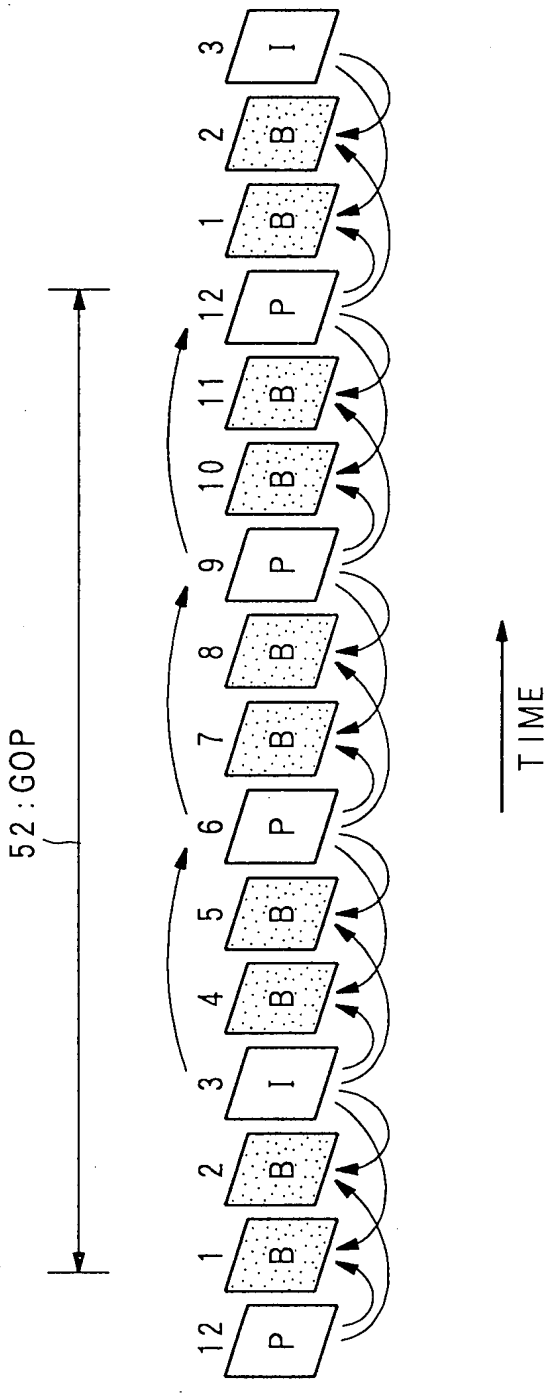


FIG. 3

LOGICAL STRUCTRE OF RECORD INFORMATION
(LOGICAL FORMAT)

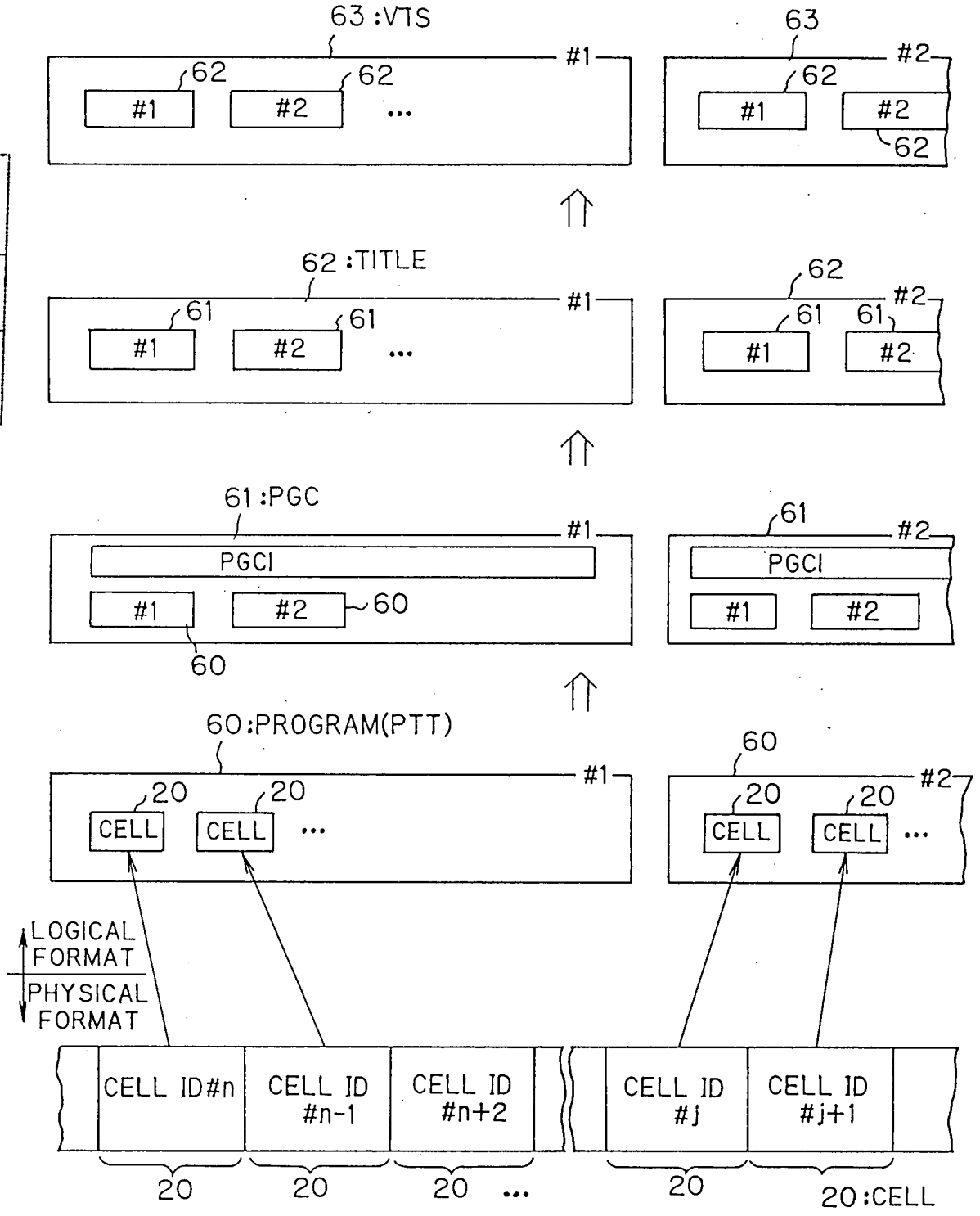
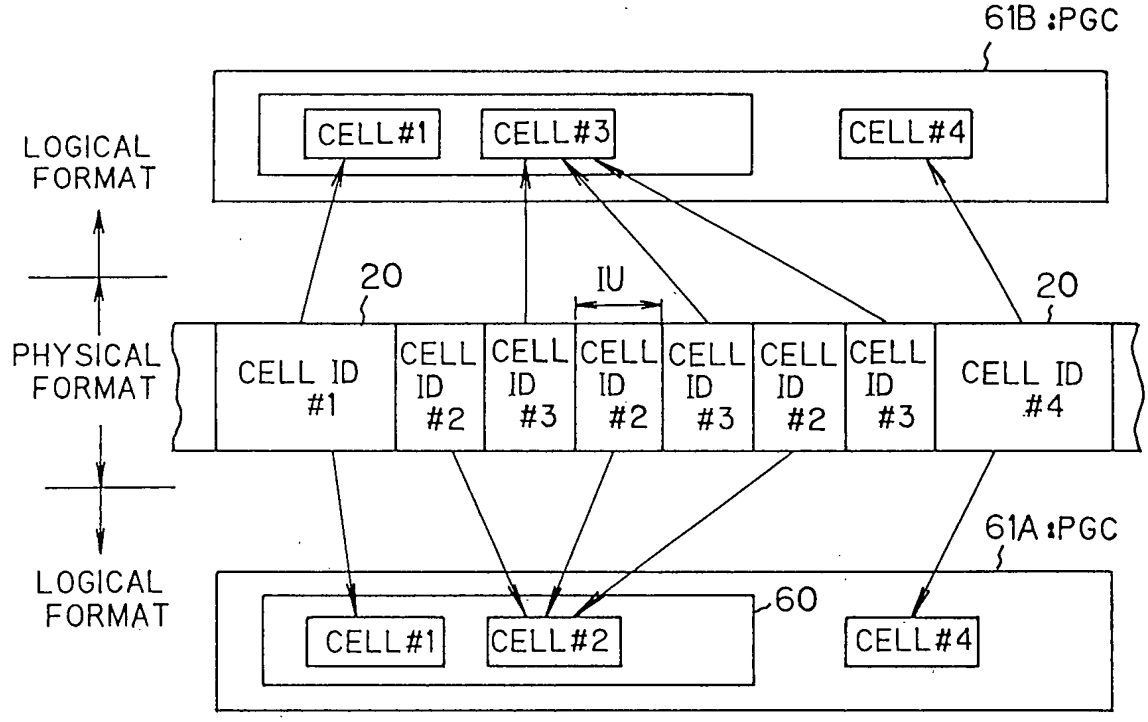


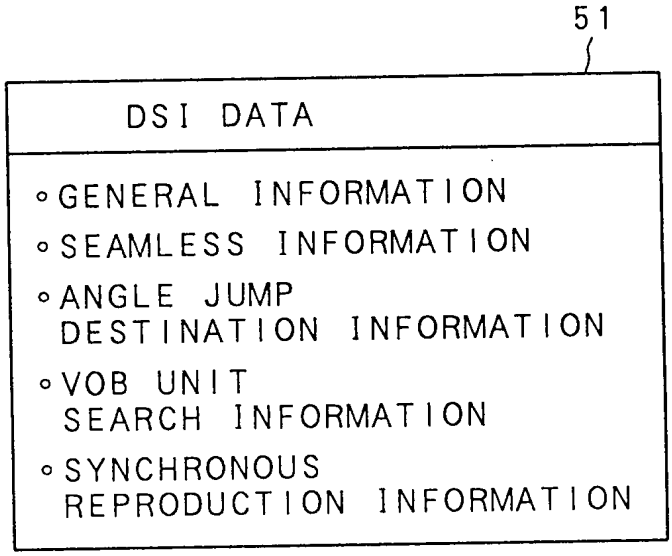
FIG. 4

STRUCTURE OF INTERLEAVED UNIT



IU :INTERLEAVED UNIT

FIG. 5


51
DSI DATA
◦GENERAL INFORMATION
◦SEAMLESS INFORMATION
◦ANGLE JUMP DESTINATION INFORMATION
◦VOB UNIT SEARCH INFORMATION
◦SYNCHRONOUS REPRODUCTION INFORMATION

U.S. FIG.
BY
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FIG. 6

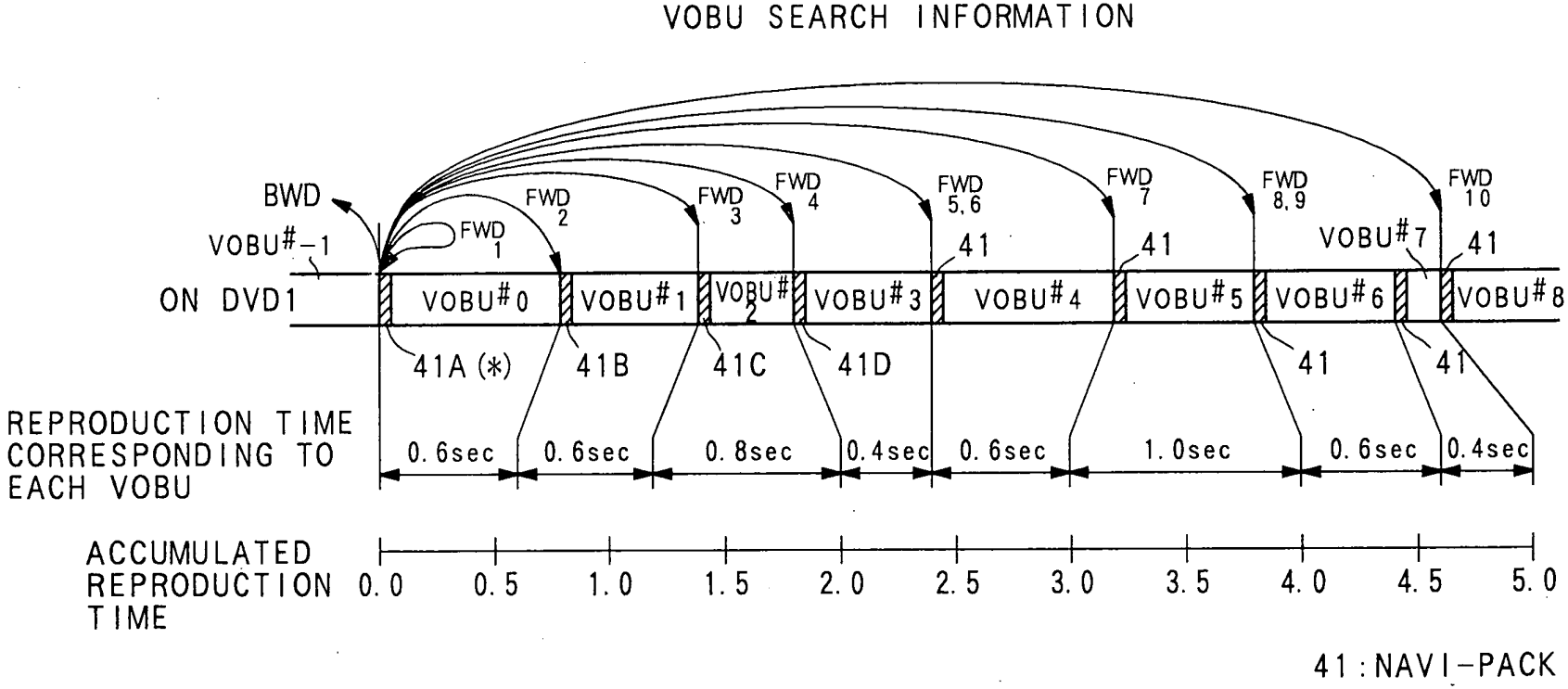

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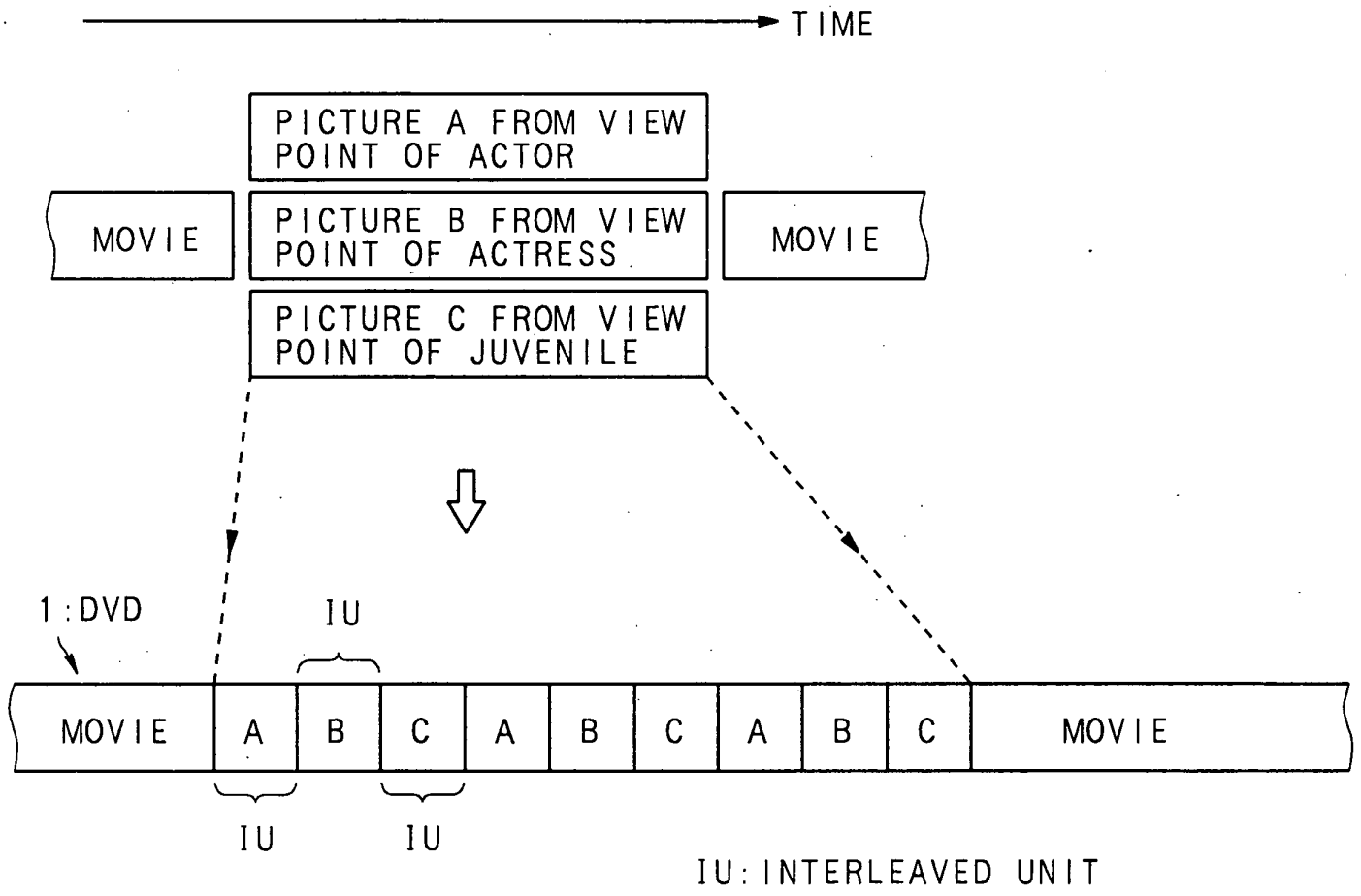
FIG. 7

structure of VOBU search information

ADDRESS NUMBER	CONTENT
FWDA240	start address of VOBU to be reproduced 120 seconds after
FWDA120	start address of VOBU to be reproduced 60 seconds after
FWDA 60	start address of VOBU to be reproduced 30 seconds after
FWDA 20	start address of VOBU to be reproduced 10 seconds after
FWDA 15	start address of VOBU to be reproduced 7.5 seconds after
FWDA 14	start address of VOBU to be reproduced 7.0 seconds after
FWDA 13	start address of VOBU to be reproduced 6.5 seconds after
FWDA 12	start address of VOBU to be reproduced 6.0 seconds after
FWDA 11	start address of VOBU to be reproduced 5.5 seconds after
FWDA 10	start address of VOBU to be reproduced 5.0 seconds after
FWDA 9	start address of VOBU to be reproduced 4.5 seconds after
FWDA 8	start address of VOBU to be reproduced 4.0 seconds after
FWDA 7	start address of VOBU to be reproduced 3.5 seconds after
FWDA 6	start address of VOBU to be reproduced 3.0 seconds after
FWDA 5	start address of VOBU to be reproduced 2.5 seconds after
FWDA 4	start address of VOBU to be reproduced 2.0 seconds after
FWDA 3	start address of VOBU to be reproduced 1.5 seconds after
FWDA 2	start address of VOBU to be reproduced 1.0 second after
FWDA 1	start address of VOBU to be reproduced 0.5 seconds after
BWDA 1	start address of VOBU reproduced 0.5 seconds before
BWDA 2	start address of VOBU reproduced 1.0 second before
BWDA 3	start address of VOBU reproduced 1.5 seconds before
BWDA 4	start address of VOBU reproduced 2.0 seconds before
BWDA 5	start address of VOBU reproduced 2.5 seconds before
:	:
:	:
:	:

Approved for entry
U.S. FIG.
BY
CLASS
DRAFTSMAN

FIG. 8

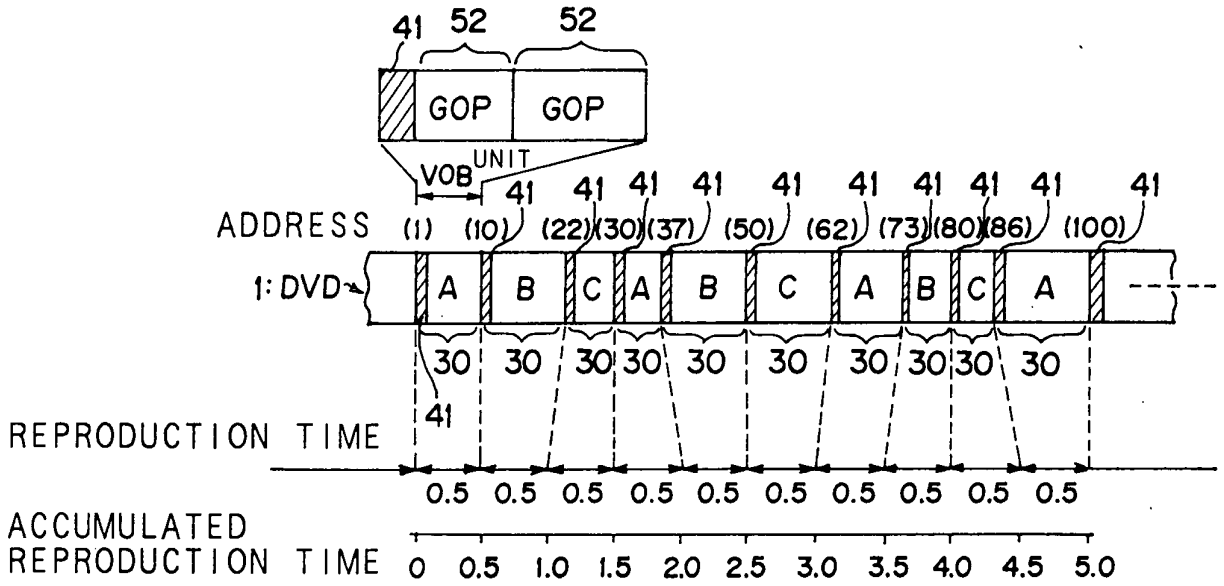


08/821424

U.S. PTO
BY
EXAMINER

FIG. 9

RELATION BETWEEN REPRODUCTION TIME AND RECORD INFORMATION DIVIDED INTO INTERLEAVED UNITS



30 : VOB UNIT
41 : NAVI-PACK

08/821424

FIG. 10

VOBU search information

Example 1

ADDRESS NUMBER	CONTENT	VOBU ADDRESS
FWDA240	start address of VOBU to be reproduced 120 seconds after	···
FWDA120	start address of VOBU to be reproduced 60 seconds after	···
FWDA 60	start address of VOBU to be reproduced 30 seconds after	···
FWDA 20	start address of VOBU to be reproduced 10 seconds after	···
FWDA 15	start address of VOBU to be reproduced 7.5 seconds after	···
FWDA 14	start address of VOBU to be reproduced 7.0 seconds after	···
FWDA 13	start address of VOBU to be reproduced 6.5 seconds after	···
FWDA 12	start address of VOBU to be reproduced 6.0 seconds after	···
FWDA 11	start address of VOBU to be reproduced 5.5 seconds after	···
FWDA 10	start address of VOBU to be reproduced 5.0 seconds after	100
FWDA 9	start address of VOBU to be reproduced 4.5 seconds after	86
FWDA 8	start address of VOBU to be reproduced 4.0 seconds after	80
FWDA 7	start address of VOBU to be reproduced 3.5 seconds after	73
FWDA 6	start address of VOBU to be reproduced 3.0 seconds after	62
FWDA 5	start address of VOBU to be reproduced 2.5 seconds after	50
FWDA 4	start address of VOBU to be reproduced 2.0 seconds after	37
FWDA 3	start address of VOBU to be reproduced 1.5 seconds after	30
FWDA 2	start address of VOBU to be reproduced 1.0 second after	22
FWDA 1	start address of VOBU to be reproduced 0.5 seconds after	10
BWDA 1	start address of VOBU reproduced 0.5 seconds before	···
BWDA 2	start address of VOBU reproduced 1.0 second before	···
BWDA 3	start address of VOBU reproduced 1.5 seconds before	···
BWDA 4	start address of VOBU reproduced 2.0 seconds before	···
BWDA 5	start address of VOBU reproduced 2.5 seconds before	···
:	:	:
:	:	:
:	:	:

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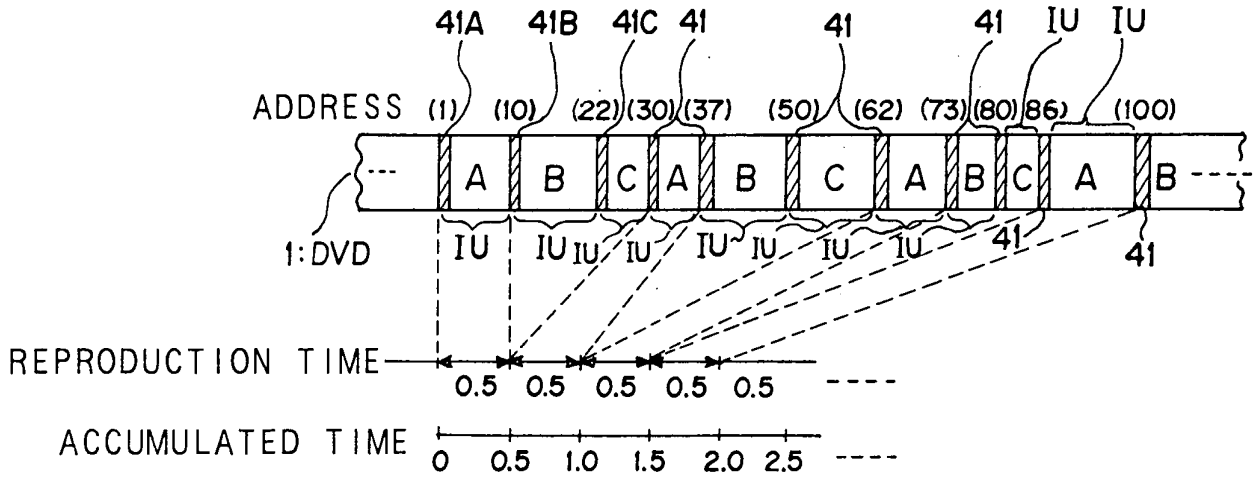
FIG.11



IU: INTERLEAVED UNIT
41: NAVI-PACK

09/821424

FIG. 12

VOBU search information

Example 2

ADDRESS NUMBER	CONTENT	VOBU ADDRESS
FWDA240	start address of VOBU to be reproduced 120 seconds after	···
FWDA120	start address of VOBU to be reproduced 60 seconds after	···
FWDA 60	start address of VOBU to be reproduced 30 seconds after	···
FWDA 20	start address of VOBU to be reproduced 10 seconds after	···
FWDA 15	start address of VOBU to be reproduced 7.5 seconds after	···
FWDA 14	start address of VOBU to be reproduced 7.0 seconds after	···
FWDA 13	start address of VOBU to be reproduced 6.5 seconds after	···
FWDA 12	start address of VOBU to be reproduced 6.0 seconds after	···
FWDA 11	start address of VOBU to be reproduced 5.5 seconds after	···
FWDA 10	start address of VOBU to be reproduced 5.0 seconds after	···
FWDA 9	start address of VOBU to be reproduced 4.5 seconds after	···
FWDA 8	start address of VOBU to be reproduced 4.0 seconds after	···
FWDA 7	start address of VOBU to be reproduced 3.5 seconds after	···
FWDA 6	start address of VOBU to be reproduced 3.0 seconds after	···
FWDA 5	start address of VOBU to be reproduced 2.5 seconds after	···
FWDA 4	start address of VOBU to be reproduced 2.0 seconds after	···
FWDA 3	start address of VOBU to be reproduced 1.5 seconds after	86
FWDA 2	start address of VOBU to be reproduced 1.0 second after	62
FWDA 1	start address of VOBU to be reproduced 0.5 seconds after	30
BWDA 1	start address of VOBU reproduced 0.5 seconds before	···
BWDA 2	start address of VOBU reproduced 1.0 second before	···
BWDA 3	start address of VOBU reproduced 1.5 seconds before	···
BWDA 4	start address of VOBU reproduced 2.0 seconds before	···
BWDA 5	start address of VOBU reproduced 2.5 seconds before	···
:	:	:
:	:	:
:	:	:

FIG. 13

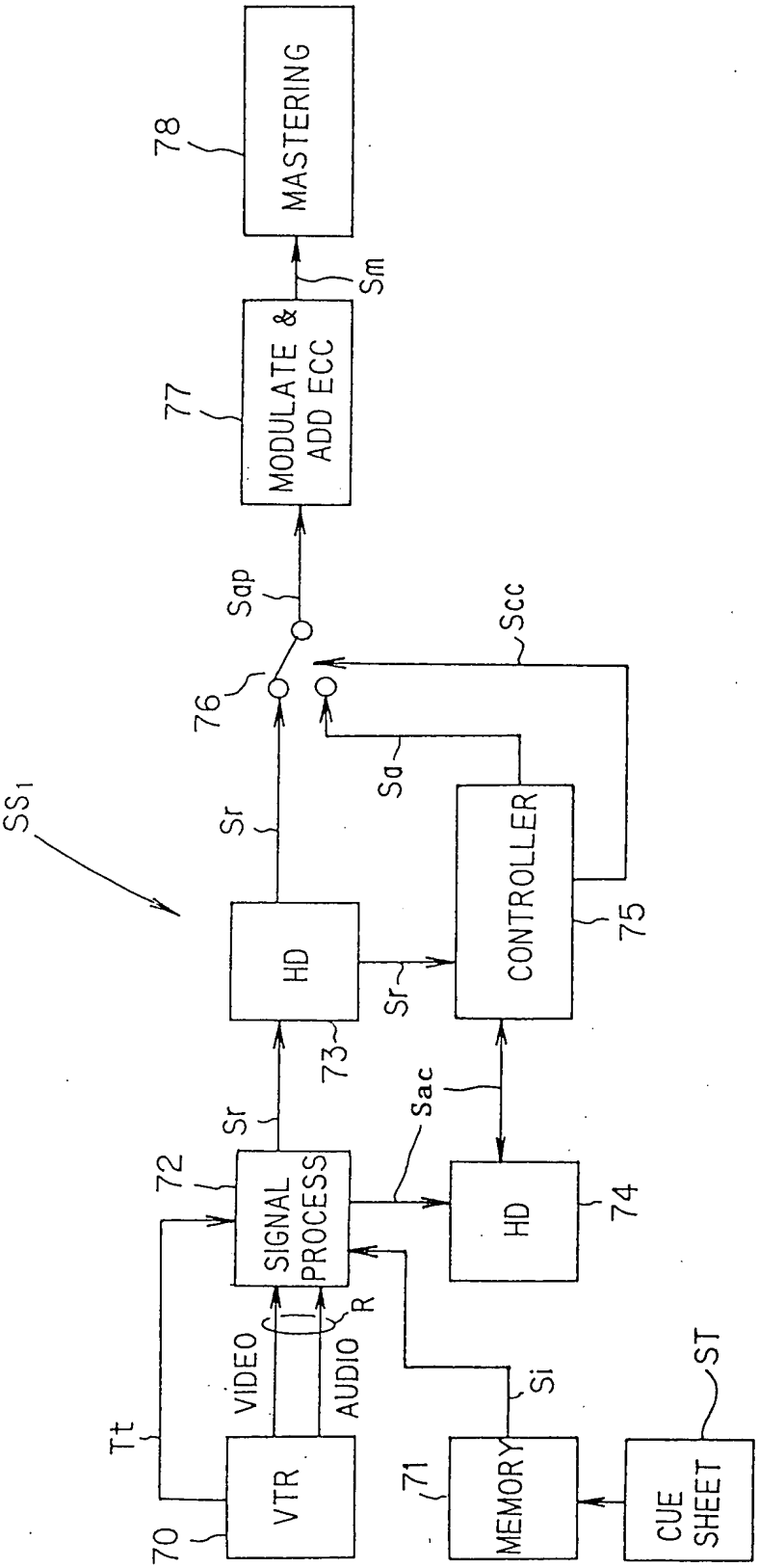

SS1
70
VTR
Tt
VIDEO
AUDIO
R
72
SIGNAL PROCESS
Sr
73
HD
Sr
76
Sap
77
MODULATE & ADD ECC
Sm
78
MASTERING
Sa
Scc
CONTROLLER
75
Sr
Sac
74
HD
71
MEMORY
Si
CUE SHEET
ST

FIG.14

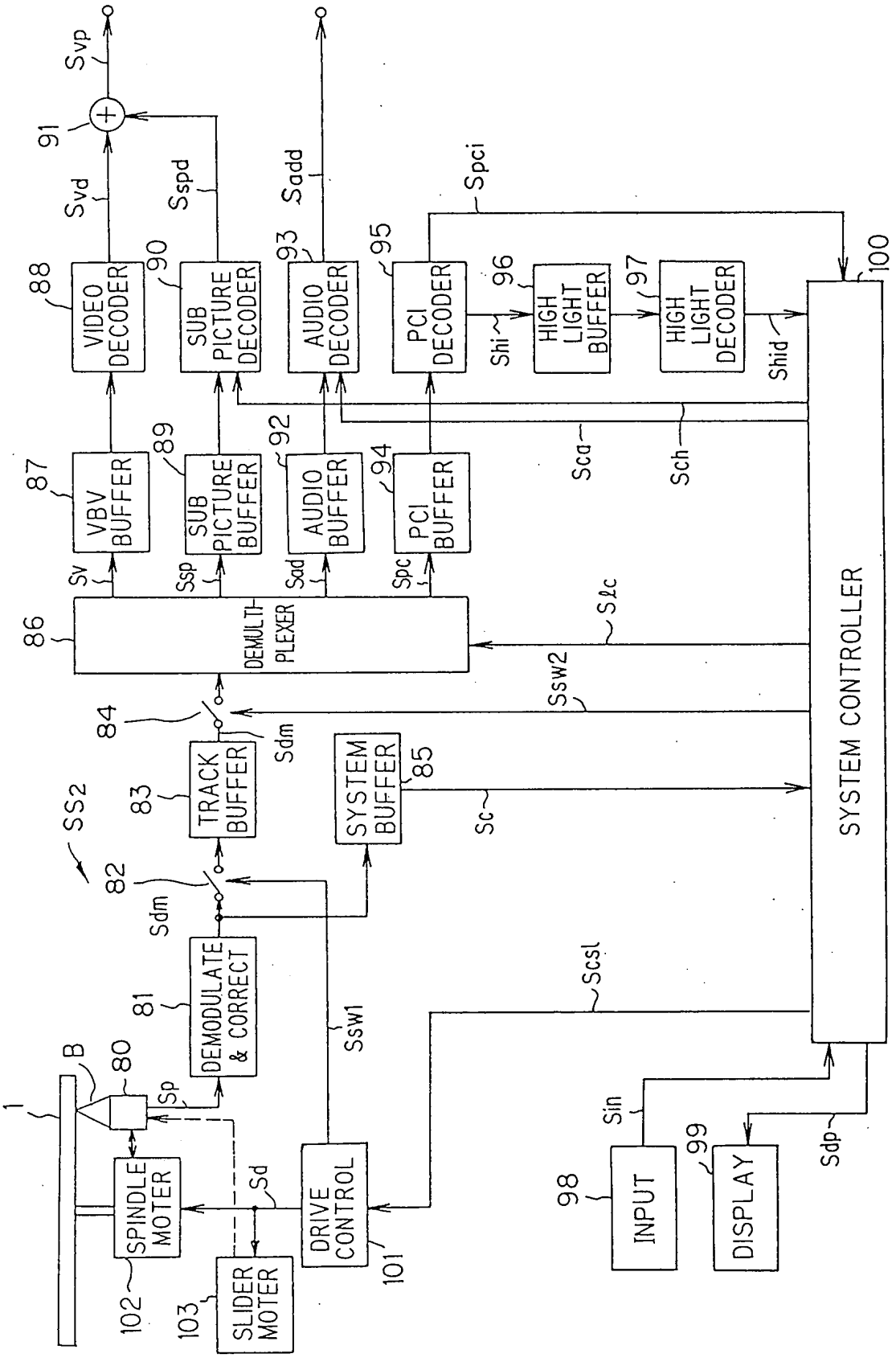

1
B
80
Sp
SPINDLE MOTER
102
Sd
SLIDER MOTER
103
DRIVE CONTROL
101
81
DEMODULATE & CORRECT
Sdm
82
SS2
83
TRACK BUFFER
84
Sdm
SYSTEM BUFFER
85
Sc
Ssw1
Scsl
Ssw2
Slc
86
DEMULTI-PLEXER
Sv
Ssp
Sad
Spc
87
VBV BUFFER
89
SUB PICTURE BUFFER
92
AUDIO BUFFER
94
PCI BUFFER
Sca
Sch
88
VIDEO DECODER
90
SUB PICTURE DECODER
93
AUDIO DECODER
95
PCI DECODER
Shi
96
HIGH LIGHT BUFFER
97
HIGH LIGHT DECODER
Shid
Spci
Svd
Sspd
Sadd
91
Svp
SYSTEM CONTROLLER
100
98
INPUT
Sin
99
DISPLAY
Sdp

FIG.15

J TIMES SPEED VISUAL SCAN OPERATION

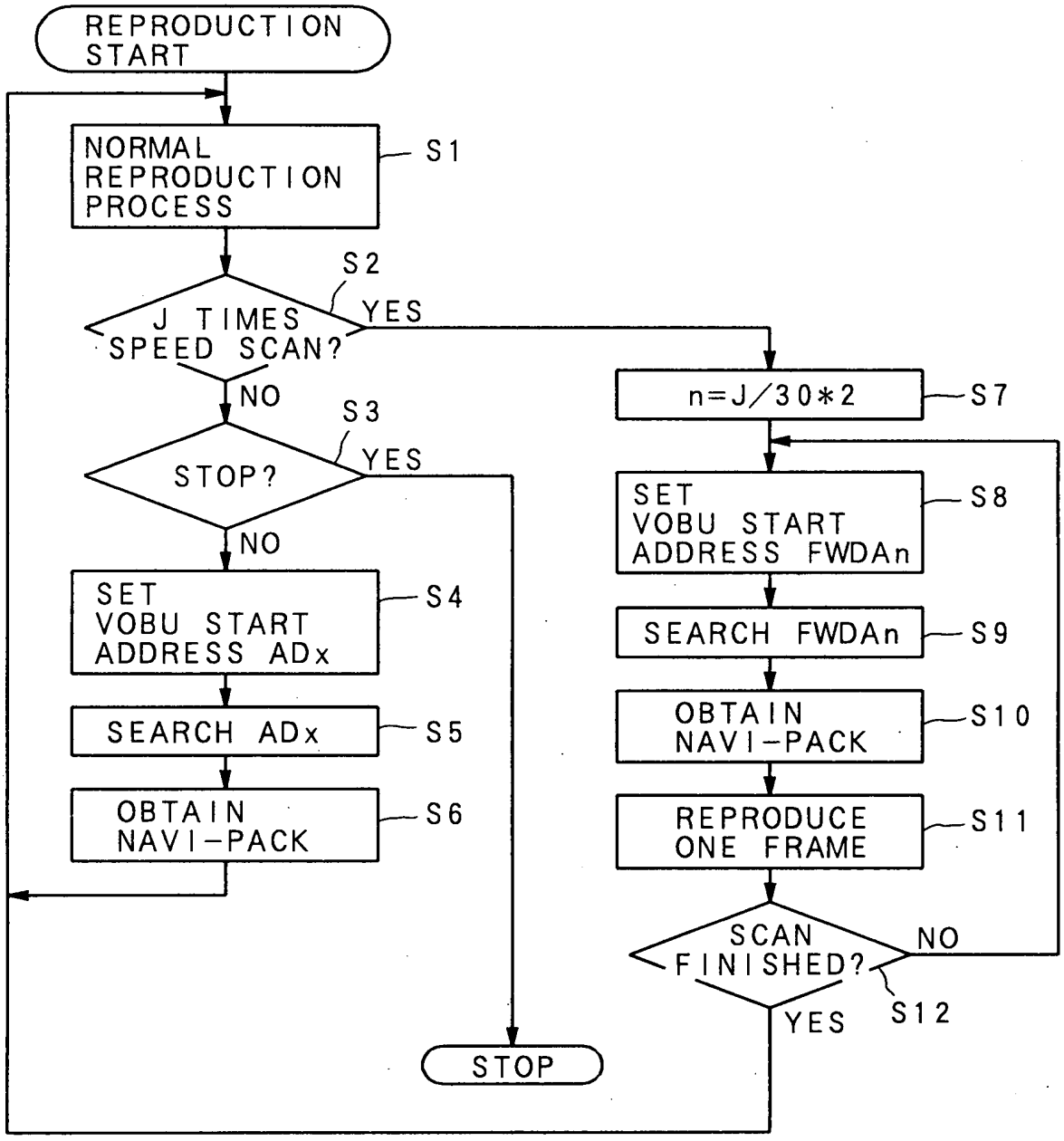
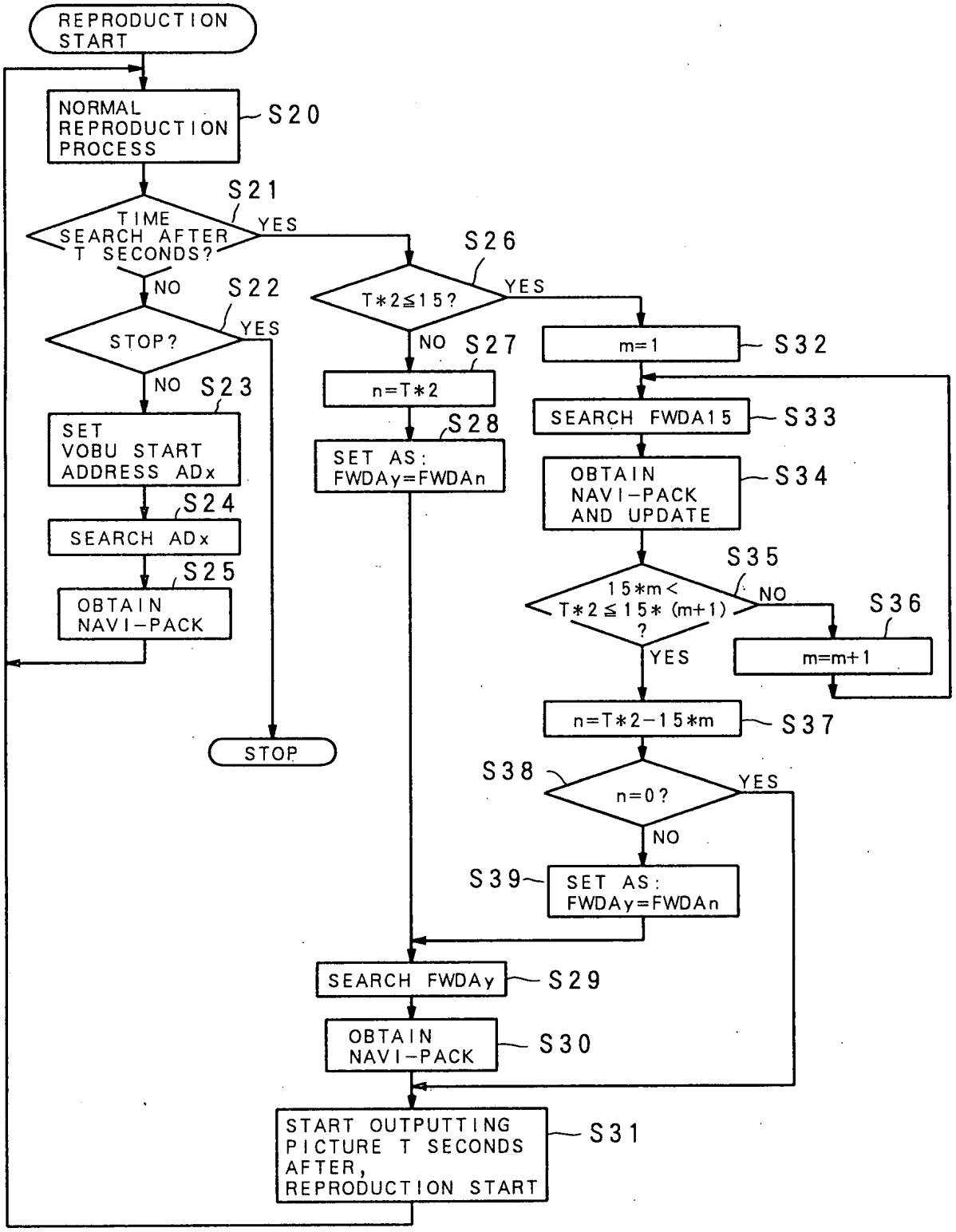


FIG. 16

TIME SEARCH